

**REMARKS / ARGUMENTS**

**A. SUMMARY OF THE AMENDMENTS**

The present application still contains 36 claims.

Claim 2 has been amended to correct an antecedent problem detected by the Examiner.

Claims 29 and 33 have been amended to introduce a clarification that was mentioned in the text of the response to the previous office action but had been inadvertently omitted from the accompanying amendment.

Claim 36 has been amended to clarify the subject matter being claimed.

No new subject matter has been added by way of the present amendment.

**B. REJECTION OF CLAIM 2 UNDER 35 U.S.C. 112**

On page 2 of the Office Action, the Examiner has rejected claim 2 for failing to provide sufficient antecedent basis for the expression “a plurality of optical signal generators as claimed in claim 1”. It is respectfully submitted that this rejection has been overcome by the present amendment, as claim 2 now recites “a plurality of apparatuses as claimed in claim 1”. The Examiner is therefore respectfully requested to withdraw the rejection of claim 2.

**C. REJECTION OF CLAIMS 1-34 UNDER 35 U.S.C. 103**

On pages 2 through 17 of the Office Action, the Examiner has rejected claim 1-34 based on various prior art references, in all cases including **Seto et al. U.S. Patent Publication 2003/0035183** (hereinafter referred to as Seto *et al.*). It is noted that in all of these rejections, the references other than Seto *et al.* applied by the Examiner are the same as (or a subset of) those which were applied in the previous office action. Since in the Applicant's respectful view, Seto *et al.* is not a meaningful reference, the Applicant has chosen to address Seto *et al.* in isolation, leaving the Examiner's arguments with the same deficiencies as those that had been pointed out in the Applicant's response to the previous office action, filed May 11, 2005.

Addressing Seto *et al.*, this reference is directed to an optical communication system. However, the extent of the "optics" in Seto *et al.*'s "optical communication system" starts with the E/O converter 18 and ends with the O/E converter 34, which are best seen in Fig. 10. In fact, referring more specifically to Fig. 10, all processing / filtering operations performed at the transmitting device 32 occur after conversion to electronic format by the O/E converter 34. This includes the operations performed by elements 38 and 40, which are the very elements cited by the Examiner to buttress the entire revised argument! Simply stated., Seto *et al.* does not in any way disclose either the feature of an "optical filter"<sup>1</sup> or the feature of "optically filtering"<sup>2</sup>. Furthermore Seto is silent on methods to stabilize the optical carrier frequency (the frequency/wavelength of the actual light of the optical source being modulated) As such, Seto *et al.* is of no more relevance to claims 1-34 than Hall U.S. Patent 4,842,358 or Iida *et al.* U.S. Patent 6,643,470, either or both of which were cited by the Examiner in rejecting each of claims 1-34 in the present office action.

Thus, in summary, Seto *et al.* is so far removed from any relevance to the present invention that it can be ignored for the purposes of assessing the patentability of claims 1-

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<sup>1</sup> Claims 1-28

<sup>2</sup> Claims 29-34

34. For further details about how claims 1-34 are viewed as patentable in the absence of Seto *et al.*, the Examiner is respectfully referred to the Applicant's response to the previous office action, filed on May 11, 2005.

Therefore, in conclusion, it is respectfully submitted that claims 1-34 are in allowable form and the Examiner is respectfully requested to withdraw the rejections applied against claims 1-34.

**D. REJECTION OF CLAIM 35 UNDER 35 U.S.C. 103**

On page 5 of the Office Action, the Examiner has rejected claim 35 under 35 U.S.C. 102(e) [*sic*] as being anticipated [*sic*] by Seto *et al.* in view of Hall U.S. Patent 4,842,358 (hereinafter referred to as Hall). The Applicant respectfully traverses this rejection and submits that claim 35 is in allowable form.

By way of an explanatory note, the rejection of claim 35 is being treated differently from the rejection of claims 1-34 above because the Applicant has noticed a dramatic change in the prior art used by Examiner to reject this claim, *viz.*, from Iida alone to Hall (+ the aforementioned Seto *et al.*). Also, the Examiner has erroneously applied 35 U.S.C. 102(e). Nevertheless, it is respectfully submitted that the change in the prior art applied by the Examiner still does not negatively affect patentability of claim 35.

In particular, it is respectfully submitted that the feature of "filtered optical signals" is missing from both Hall and Seto *et al.*. Regarding Hall, as previously mentioned (SEE SECTION **C** OF THE RESPONSE TO THE PREVIOUS OFFICE ACTION, FILED MAY 11, 2005), Hall's filtering operations are performed strictly in the electrical domain. The same is true for Seto *et al.* (SEE SECTION **C** OF THE PRESENT RESPONSE, ABOVE.) Thus, if Hall or Seto *et al.* disclose optical signals, then they are not filtered; and if Hall or Seto *et al.* disclose filtered signals, then they are not optical.

In addition, Hall's and Seto *et al.*'s overall lack of concern for optical filtering results in those references' unsurprising failure to disclose "filtered optical signals including [a] portion of [a] generated carrier signal contained in a pass band surrounding a different respective channel center frequency."

In view of the above, it is Applicant's respectful submission that there is at least one limitation of claim 35 that is neither taught nor suggested in the cited art, and thus there is at least one criterion required for establishing a *prima facie* case of obviousness in accordance with MPEP 706.02(j) which has not been satisfied<sup>3</sup>. The Examiner is therefore respectfully requested to withdraw the rejection of claim 35, which is believed to be in condition for allowance.

#### E. REJECTION OF CLAIM 36 UNDER 35 U.S.C. 103

On page 17 of the Office Action, the Examiner has rejected claim 36 under 35 U.S.C. 103(a) as being unpatentable over Hall U.S. Patent 4,842,358 (hereinafter referred to as Hall) in view of Fuse U.S. Patent 6,532,099 (hereinafter referred to as Fuse) and Miyazaki *et al.* U.S. Patent 5,387,992 (hereinafter referred to as Miyazaki). The Applicant respectfully traverses this rejection and submits that claim 36 is in allowable form.

##### Hall

Firstly, (SEE SECTION C OF THE RESPONSE TO THE PREVIOUS OFFICE ACTION, FILED MAY 11, 2005), Hall does not teach optical filtering and therefore cannot be held to teach "first and second optically filtered versions of the generated carrier signal". Moreover, since Hall fails to disclose first and second optically filtered versions, Hall also fails to disclose

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<sup>3</sup> For the Examiner to establish a *prima facie* case of obviousness, three criteria must be considered: (1) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference

specific optical properties of these versions, namely “each version including the portion of a generated carrier signal contained in a pass band surrounding a different respective channel center frequency”.

Fuse

It is respectfully submitted that the above feature of claim 36 is also absent from Fuse. Specifically, Fuse discloses an optical communication apparatus. As summarized in column 12, lines 42-49 of Fuse, “in the optical spectrum of the optical signal modulated with the RF modulated signal, switching of the transmission routes is carried out based first on the optical wavelength, and then on the RF modulating frequency.” To this end (see Fig. 1), Fuse uses an optical router 105 to perform the optical switching and a set of “RF optical routers” 1071, 1072 to perform the switching based on RF modulating frequency. It will be noted that each of the RF optical routers is uniquely associated with a single optical wavelength (e.g.,  $\lambda_1, \lambda_2$ ).

Now, the Examiner has cited a passage from Fuse (column 4, lines 40-45) which describes one of these RF optical routers, which is shown in greater detail in Fig. 5 and is accompanied by a more detailed description in column 10, line 60 to column 11, line 26. Specifically, “the first optical filter 5011 passes only the optical carrier component and double sideband components of the RF modulated signal  $S_k$  for output from a first output terminal 50011 of the RF optical router 5001. [...] Similarly, the second optical filter 5012 passes only the optical carrier component and double sideband components of the RF modulated signal  $S_j$  for output from a second output terminal 50012 of the RF optical router 5001.”

Thus, it is abundantly clear that the first and second optical filters in the RF optical router of Fuse have respective passbands that are necessarily centered about the same optical carrier frequency. This is in contrast to the claimed limitation of “each version including

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teachings, (2) there must be a reasonable expectation of success, and (3) the prior art references must teach or suggest all of the claim limitations. MPEP §§ 706.02(j), 2142 (8<sup>th</sup> ed.).

the portion of a generated carrier signal contained in a pass band surrounding a different respective channel center frequency”. The Applicant further submits that addition of the word “different” by the present amendment, although descriptive and helpful, was not crucial to distinguish the expression “respective channel center frequency” from the cited art.

Miyazaki

It is also respectfully submitted that the above feature of claim 36 are also absent from Miyazaki. Specifically, Miyazaki provides an optical frequency multiplex carrier control system. However, nowhere in Miyazaki is there provided first and second optically filtered versions of a generated carrier signal. It thus comes as no surprise that Miyazaki will be deficient in disclosing “each version including the portion of a generated carrier signal contained in a pass band surrounding a different respective channel center frequency”.

Thus, it will be clear that claim 36 exhibits at least one feature that is not taught or suggested in any of the cited references. Thus, there is at least one criterion required for establishing a *prima facie* case of obviousness in accordance with MPEP 706.02(j) which has not been satisfied and the Examiner is therefore respectfully requested to withdraw the rejection of claim 36.

**IV. CONCLUSION**

In view of the foregoing, Applicant is of the view that claims 1-36 are in allowable form. Favourable reconsideration is requested. Early allowance of the Application is earnestly solicited.

If the application is not considered to be in full condition for allowance, for any reason, the Applicant respectfully requests the constructive assistance and suggestions of the Examiner in drafting one or more acceptable claims pursuant to MPEP 707.07(j) or in making constructive suggestions pursuant to MPEP 706.03 so that the application can be placed in allowable condition as soon as possible and without the need for further proceedings.

Respectfully submitted,



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